DOCUMENT RESUME

ED 173 740 CG 013 647

AUTHOR Byrd, Gary R.; Locke, Bill J.
TITLE Establishment and Maintenance of Positive Behavior Change Under Alternate Procedures for Microeconomy Initiation and Termination.
PUB DATE 74
NOTE 8p.; Best copy available

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Behavioral Science Research; *Behavior Change; *Contingency Management; Environmental Influences; *Institutionalized Persons; *Mentally Handicapped; *Reinforcement; *Residential Programs; Retardation; Self Care Skills; Social Behavior

ABSTRACT

Token management procedures, initiated in a community residential home for six retarded subjects, were designed to affect social behaviors and personal care habits. Two delivery formats were used, one in which prior announcement of reinforcement contingencies was explained, a second in which target behaviors were consequated as they occurred. The announcement and consequation procedure was able to change the target behaviors much faster than the trial and error pace of consequation only procedure. However, each of the treatment formats attained a stable level of change, and there were no differences in maintaining the performance level. During the extinction phase, the greatest deterioration was noted in increments of maladaptive social behaviors, and the least change was observed among personal care habits. (Author/PJC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Gary R. Byrd

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

ED173740

GG013647

Establishment and Maintenance of Positive Behavior Change under Alternate Procedures for Microeconomy Initiation and Termination

Gary R. Byrd and Bill J. Locke

Texas Tech University

While the group home concept has been implemented abroad for a number of years, such facilities in this country represent a very recent innovation in services to the retarded. Thus, of the approximately 425 such facilities currently operating in the United States, nearly half have only been established within the past three years (O'Connor and Justice, 1973). Just as the potential of group home patterns is becoming more clearly recognized by vocational rehabilitation/mental retardation agencies, the difficulty in arriving at consensual agreement on optimal patterns of operation has assumed comparable prominence. The primary difficulty lies in the minimal information exchanged and the near absence of relevant research (Sigelman, 1973). Accordingly, this project attempted to empirically examine the effectiveness of one class of management procedures characterizing some group home operations * the token economy system.

As applied in other settings, the advantages presented by token economy procedures for ongoing behavioral management are well documented (e.g., Kazdin, 1971). Major questions remain, however, regarding the applicability of such procedures to less controlled environments and the readiness with which positive behavior changes can be maintained outside of the controlled setting or within that setting once the token system has been removed. Most specialists pose the prospect that adaptive behavior targets may, once instated via token procedures, be maintained by unmanipulated, natural behavioral consequences already operating in the

free environment. However, this is no more than an assumption and the present research to directly examine the issue by manipulating conditions deemed likely to interact with the shift from contrived to unmanipulated consequences of desired behavior patterns. This study examined the instatement and maintenance of desired behavior changes within a group living unit under alternate patterns of token-contingency development and under attempted variations in the temporal rate with which shifts to natural environmental control occur.

METHOD

Subjects: Six retarded males ranging from 18 to 35 years in age served as subjects of this program. One subject was chicano while the remainder were caucasian.

Procedure: The use of token management procedures was initiated upon the request of the houseparents and administrator of a group home housing six moderate to severely retarded males in Lubbock, Texas. Several members of the home were found to be erratic in their performance of household chores and all exhibited some individual pattern of personal behavior deemed in need of modification. After rates of behavior had been recorded to establish baseline levels of performance, a token-type system was introduced into the home. Rather than using a highly formal system alien to the climate prevailing within the home, reinforcing events already present were utilized. Two classes of target behavior changes were indentified for each resident that were as equivalent as possible in so far as rate, topography and direction of desired change. Time samples of behavior rates were taken throughout the experiment. The initial token modification formats were systematically varied on the basis of

two delivery formats, one in which there was a prior announcement of reinforcement contingencies to be invoked with encouragement akin to behavior contracting procedures and a second in which target behaviors were simply consequated as they occurred without prior announcement. The rationale for electing to consider these particular variations was that resistance to extinction in more formal experimental paradigms has tended to be positively related to the degree of similarity between acquisition and extinction conditions. By that token, the unannounced contingency format would be more likely to generate a higher resistance to extinction once the token system was removed. Moreover, the same general literature would suggest that behavior change or aquisition would proceed more rapidly under more markedly altered learning environs and, hence, the announced contingency format should promote more rapid acquisition of desired behaviors. Such relationships should prove highly relevant to the group home administrator if there were some reciprocal relationship between conditions promoting rapid behavior change and those promoting enduring behavior change.

Within each of the two groups formed on the basis of delivery format, there was an attempt to further halve the groups on the basis of rate at which extinction procedures were introduced or, stated differently, the rate at which the shift from token procedures to unmanipulated, natural conditions occurred. A gradual fading of token contingencies, one behavior at a time, was projected for half the Ss, while the remaining residents were programmed for an immediate and abrupt withdrawal of all token contingencies for all behaviors simultaneously. As will be detailed in the Results section, this element of the research procedure was seriously compromised.

Shifts in experimental phases were predicted upon the stabilization of all behavior targets over time. The primary dependent variable was behavior rate and a within-subject, repeated measures design was applied via conventions typifying operant experiments. The design is schematized below.

Subject Group I

	Behavior Cluster A	Behavior Cluster B
Phase I	Baseline	Baseline
Phase II	Announce/Consequate	Baseline
Phase III	Announce/Consequate	Consequate
Phase IV	Abrupt Withdrawal	Gradual Withdrawal
Phase V	Baseline	Baseline

Subject Group II

	Behavior Cluster A	Behavior Cluster B
Phase I	Baseline	Baseline
Phase II	Consequate	Baseline
Phase III	Consequate	Announce/Consequate
Phase IV	Abrupt Withdrawal	Gradual Withdrawal
Phase V	Baseline	Baseline

RESULTS AND DISCUSSION

The token system produced rapid and positive behavior change with all of the projected behavior changes being accomplished among the six group living residents. A variety of behavioral targets emerged as focal objectives of the program. These included the performance of daily housekeeping routines, obviation of maladaptive social behaviors, and established good grooming and personal habits. For example, each boy in the home was responsible for the completion of ten daily tasks comprising a larger chore area (e.g., kitchen duty). Before the system was instituted, performance was erratic and the mean of all boys was 3.9 tasks successfully completed per day. With the instatement of the token system, all boys attained the mazimum score of ten per day and maintained it over the duration of the token system. Among the more individuated target behaviors, one boy, initially characterized by total inattention to the neatness of

clothing locker, was subquently noted to maintain a wee-ordered drawer 85.7 % of the times observation was taken under token reinforcemant. Acceleration or increasing the frequency of a given behavior was not always the objective. Rather, a number of maladaptive behaviors were designated for decelleration or decrease in frequency. Thus, one boy was noted to exhibit boistrous verbal behavior in some 36% of the pre-treatment baseline observations while such conversational patterns were absent in all observations taken in terminal weeks of the token system.

The announcement and consequation treatment format did attain a stability criterion (four consecutive days of 100%) in significantly fewer number of days ($t=3.05$, $p < .01$, $df=20$) than the consequate treatment format. In other words, the announcemant and consequation procedure was able to change the target behaviors much faster than the trial and error pace of the consequation only procedure. But it should be noted that once each of the treatment formats attained a stable level, there were no differences found in maintaining the performance level.

As indicated earlier, a comparison was planned between a graduated and an abrupt shift out of the token system. As asymptotic (maximal) and/or stable levels of each targeted behavior were achieved among all Subjects (approximately six months after the program's onset), the cottage parents announced plans to leave the program and it proved impossible to maintain the continuity of the graduated procedure. For all practical purposes, then, the data for all Subjects subsequent to termination of the token system occurred under the abrupt shift procedure. Removal of the token system produced a consistent and significant decrement in the degree to which desired behavior patterns as a whole were exhibited. However, the degree to which different individual

behaviors were affected varied from a virtual return to pre-token levels to only slight decrements in frequency. Generally, the greatest deterioration was noted in increments of maladaptive social behaviors and the least change was observed among personal care and grooming habits. The changes associated with removal of the token system are present in Table 1.

TABLE 1

Mean Percent Change in Desired Direction Between: A) Pre-Treatment and Post-Treatment Behavior Rates and B) Treatment and Post-Treatment Rates During Terminal Week of Each Phase

	A	B
Subject 1	32	44
Subject 2	23	10
Subject 3	54	21
Subject 4	32	9
Subject 5	43	58
Subject 6	37	24
All Subjects	38	23

With final post-treatment gains ranging from 23 to 54% over initial, untreated levels of the focal behaviors, significant improvement was retained and maintained subsequent to removal of the token system. However, a marked degree of attrition had occurred and gains were significantly less than those present during the ongoing token system (see column B of Table 1). The terminal post-treatment drops occurred rapidly with most of the decrements effected within the first week and behavior rates relatively stable thereafter.

REFERENCES

Kazdin, A. "The token economy: An annotated bibliography." Journal Supplement Abstract Service, American Psychological Association, 1971.

O'Connor, Gail and Justice, R.S. "National patterns in the development of community group homes for the mentally retarded." Paper presented at the 97th meeting of the American Association on Mental Deficiency, May 28, 1973.

Sigelman, Carol. "Introduction: Group homes for the mentally retarded." In Carol Sigelman (Ed.), Group homes for the mentally retarded, Monograph No. 1, Texas Tech University Research and Training Center in Mental Retardation, August, 1973.